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To: Biosolids Expert Panel Members
From: Henry J. Staudinger, Citizens' Representative
Re: Issues to Be Considered
Date: October 10, 2007

HJR 694 directs this panel to "study the impact of land application of biosolids (sewage sludge) on human health and the environment." From the perspective of the public, it is hoped that the panel's report will lead to better protection for health, the environment and quality of life when biosolids are land applied. However, the panel must operate with a severe handicap -- it has been afforded no funds and limited resources and time. As a result, the panel's report will of necessity be limited and be based primarily on collected information.

However, the net for information must be cast widely enough to enable to panel to prepare a meaningful report. The request should include policies and practices of VDH, DEQ, generators, applicators and farm operators. It should also include applicable studies, as well as an understanding of the limitations of those studies. As part of the information gathering process, the panel should include the following:

Requests to Generators , Applicators and Farm Operators :

An important directive to the panel is to perform a detailed analysis of the chemical and biological composition of biosolids. Unfortunately the panel has no funding to perform such an analysis. Fortunately generators have an obligation to test and maintain records of many of the constituents found in their sewage sludge. Generators and applicators also have independent obligations to make certain that there is nothing in their sludge that would cause harm when land applied. Thus generators should be asked to provide copies of constituent information. The panel should also ask that the information be accompanied by a clear statement of applicable testing policies and practices as well as known limitations thereof as well as any scientific documentation that supports the known nature of risk to those exposed to their biosolids.

Generators, applicators and farm operators should be asked for their understanding of their responsibilities when land applying biosolids. They should also be asked for copies of their policies and practices to assure compliance with applicable laws and regulations and to otherwise avoid causing harm to health, the environment and quality of life when biosolids are land applied. They should also be asked to provide any information that may scientifically document the nature

of the risk of exposure to their specific biosolids -- especially exposure via aerosols.

Generators and applicators should be asked to specifically explain what steps are taken to address complaints, to avoid further exposing individuals who become ill following exposure, and to avoid exposing the seriously ill, those with allergies and others from exposure. They should be asked to explain what steps are taken to avoid applying sludge on pollution sensitive sites as well as how they ensure the farmers operate in compliance with applicable laws. They should also be asked how they address violations. Applicators should also be asked for copies of information provided to land owners and farm operators describing the potential risks and the special permit obligations of the farm operator.

Requests to State and Federal Agencies:

From the perspective of the public, the regulations often appear to be inadequate and unenforced. It has long been clear that EPA's 503 regulations were not designed to address many of the health and environmental concerns. For example, identification and exclusion of pollution sensitive sites has been left up to states. Many pollutants were not addressed. For example, you may not be aware of the presence of larger amounts of PCB's recently found in Milorganite (a Class A sludge), was not a violation of 503. It is therefore important for the panel to understand how much or how little the 503 regulations can be relied on to protect public health and the environment.

VDH and DEQ should be asked to identify any additional legislation that may be necessary to address health, the environment and quality of life issues, especially those raised by the public. They should also be asked to identify what regulatory changes would have to be adopted to address those same issues.

VDH, DEQ and EPA should also be asked to provide any biosolids constituent information they may have in their files. Lack of testing, monitoring and enforcing of the regulations and well as failure to adequately address complaints are considered a serious deficiencies by those who have been exposed to biosolids. DEQ should be asked how it will address those deficiencies. To the extent that there may be insufficient personnel and/or funding, the agencies should be asked what steps will be taken to address any such deficiencies. (DEQ should take into account the impact of field storage, should those proposed regulations become law.) Since DEQ proposes to rely on VDH as to health related issues, it is particularly important to understand what personnel and funding will be made available and standards that will be used.

VDH and DEQ should be asked to provide information that would enable the panel to better understand the permitting and regulatory process in general and its potential limitations. Representative annual and quarterly reports, notice of violations, penalties assessed, and history of complaints should be included in the information request.

DEQ should be asked whether and how it might develop aerosols buffers sufficient to avoid further

exposure of those who became ill following exposure to biosolids as well as those with severe illnesses. This is an important issue, particularly in light of the lack of knowledge of the constituents to which they may be exposed.

DEQ should also be asked to better explain its understanding of the regulatory provisions it will be implementing and enforcing. For example, 12 VAC 5-585-10A says that biosolids are sewage sludge that is treated to the point that it “contains acceptable levels of pollutants”. However, “acceptable levels” is not defined. What criteria will be used to assure compliance with underlying legislation and regulations?

Literature Research and Input from Experts

A search for studies that identify the nature of the risks associated with biosolids in the context of the policies and practices in Virginia is very important. However, it may be even more important to understand the limitations of those studies as well as their applicability to biosolids land applied in Virginia.

The search should specifically focus on pollution sensitive sites, as to health and the environment. Information should be sought to better identify sites that should be excluded from land application due to pollution sensitivity. Some sites such as springs have been identified for exclusion. Others such as sinkholes have been inadequately identified based on outdated science. Others have not even been addressed. It was suggested to this panel that animal manures also cause problems (indeed that was the conclusion of a National Academy of Science Study). Efforts should be made to determine if sites that receive large quantities of manures should be excluded as pollution sensitive sites – with special focus on aerosols exposure. Members with special expertise in these areas should be directly involved in evaluating these and other pollution sensitive sites.

The lack of information as to biosolids constituents is likely to exist well into the future. It will take even longer to evaluate the potential risks associated with exposure to those constituents. This is special concern with respect to those who become ill following exposure to biosolids (particularly aerosols), those who are seriously ill before exposure and those with special allergies. (Individuals are often allergic to things that are harmless to others – e.g. shell fish and peanuts. To my knowledge there is currently no way to address risk this when biosolids are applied.) Efforts should be made to determine how to develop sufficient boundaries to protect those individuals.

Until those issues can be addressed, a concerted effort must be made to develop more protective buffers to address this problem for the near future. Not only should literature be searched for this information; but experts should be contacted for their input.

Securing the kind of information described above is an important step in developing a meaningful Report to the General Assembly. The collected information should also be useful to DEQ as it undertakes responsibility for the biosolids permit program. I trust that this memo will assist in

moving the panel in that direction. Should anyone have any questions as to the relevance and importance of this information, I am available to answer questions.